



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,731	02/25/2004	Jack Nilsson	17128-5	2742
23675	7590	02/20/2007		
Sheldon & Mak, Inc 225 South Lake Avenue Pasadena, CA 91101			EXAMINER CABUCOS, MARIE G	
			ART UNIT	PAPER NUMBER
			2163	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/20/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding:

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/786,731

Applicant(s)

NILSSON, JACK

Examiner

Marie Antoinette Cabucos

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9-17,19-24,26-28,30 and 31 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) -6,9-17,19-24,26-28,30 and 31 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/27/2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 9, 11, 13, 19, 26, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikko K. Moilanen (US Patent no. 5,561,439) in view of Rondald L. Buckles (US Patent no. 6,486,849).**

Regarding claims 1, 13, 30 and 31, Buckles, figure 3, teaches of an antenna comprising more than two radiative antenna elements (52C) each having a first end and a second end, and wherein said second ends of said radiative antenna elements are electrically connected at an apex point (5) and are each disposed outwardly away from

Art Unit: 2163

said apex point at an acute angle relative to and on a first side of an imaginary plane intersecting said apex point. Buckles does not teach an electrically conductive, cylindrical ground reference but is disclosed by Moilanen as referenced by (2) in figure 3 of the prior art. It would have been obvious by one having ordinary skill in the art, at the time of the invention, to manufacture the antenna taught in Buckles with the non-planar ground with the mounting mechanism taught in Moilanen for easy installation. Moilanen discloses the non-planar ground except for the ground being cylindrically shaped. It would have been an obvious matter of design choice to modify the conductive ground of Moilanen to be cylindrically shaped, since applicant has not disclosed that the ground being cylindrically shaped instead of as disclosed in Moilanen solves any stated problem or is for any particular purpose and it appears that Moilanen in view of Buckles would perform equally well with the conductive ground being cone shaped.

4. Regarding claims 9 and 19, ground disclosed in Moilanen is coned shaped having a side length that is about $\frac{1}{4}$ wavelength (col1, lines 48-50).
5. Regarding claims 11 and 26, Moilanen further discloses a mounting mechanism (col. 1, lines 48-50).
6. Regarding claim 12, Buckles, figure 3, discloses an antenna wherein said acute angle between each of said radiative antenna elements and said imaginary plane is between a degree and 89 degrees; and wherein said radiative antenna elements are equally spaced in angle circumferentially around 360 degrees.

7. Claims 2-4, 6, 10, 14-16, 20, 21, 23, 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moilanen in view of Buckles as applied to claims 1 and 13 above, and further in view of Raul J. Pla (US Patent no. 6,300,912).

Regarding claims 2 and 14, Moilanen and Buckles does not disclose a dielectric material serving to mechanically connect the radiative antenna elements to the ground while electrically insulating the radiative antenna elements from the ground. Figure 1 of Pla teaches of a dielectric block (20). It would have been obvious by one having ordinary skill in the art, at the time of the invention, to use the dielectric block disclosed in Pla with the antenna disclosed in Moilanen and Buckles so as to support and insulate the antenna elements.

8. Regarding claims 3, 4, 15, and 16, while Moilanen discloses a connection means, Moilanen and Buckles do not disclose connection to a transmission line for interfacing radiative antenna elements to a radio frequency transmitter and/or receiver. Pla discloses connection to an electronic device (col. 4, line 30-33). It would have been obvious by one having ordinary skill in the art, at the time of the invention, for connection means disclosed in Moilanen to connect to an electronic device as disclosed by Pla for convenience and simple installation.

9. Regarding claims 6, 21, 23 and 24, while Moilanen and Buckles disclose radiative antenna elements that are substantially linear, Moilanen and Buckles do not disclose of elements having a predetermined physical length. Pla discloses of radiative antenna elements that are substantially linear and have a predetermined physical length

Art Unit: 2163

(col. 2, lines 53-56). It would have been obvious by one having ordinary skill in the art, at the time of the invention, for antenna disclosed in Moilanen and Buckles for elements to have a predetermined physical length as disclosed by Pla for easy tuning.

10. Regarding claims 10 and 20, Moilanen and Buckles do not disclose an outer conductor of a coaxial cable. Pla discloses a coaxial cable having an outer conductor (col. 1, line 35). It would have been obvious by one having ordinary skill in the art, at the time of the invention, to use the coaxial cable disclosed in Pla with the antenna disclosed in Moilanen and Buckles for a compact and simple to install antenna.

11. Regarding claim 27, Buckles, figure 3, discloses an antenna wherein said acute angle between each of said radiative antenna elements and said imaginary plane is between a degree and 89 degrees; and wherein said radiative antenna elements are equally spaced in angle circumferentially around 360 degrees.

12. Claims 5, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moilanen in view of Buckles as applied to claims 1 and 13 above, and further in view of Abraham Press (US Patent no. 1,554,231).

Moilanen and Buckles do not disclose of radiative elements being wound coils. Figures 6 and 7 of Press disclose coil antennas. It would have been obvious by one having ordinary skill in the art, at the time of the invention, to construct the antenna disclosed in Moilanen and Buckles with the wound coils of Press for a more compact antenna.

Art Unit: 2163

13. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moilanen in view of Buckles as applied to claims 1 and 13 above, and further in view of Robert Kleinschmidt (US Patent no. 6,714,170).

Moilanen and Buckles do not disclose a motor connected to the antenna. Kleinschmidt discloses of connecting a motor to the antenna according to claim 13 (col. 3, lines 5-18). It would have been obvious by one having ordinary skill in the art, at the time of the invention, to provide the antenna disclosed in Moilanen and Buckles with the motor disclosed in Kleinschmidt for antenna rotation.

Allowable Subject Matter

The indicated allowability of claims 30 and 31 is withdrawn. The rejections is as cited above.

Response to Arguments

Applicant's arguments filed 4/17/2006 have been fully considered but they are not persuasive.

Inquiry

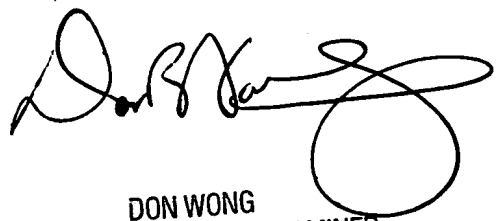
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie Antoinette Cabucos whose telephone number is 571-272-8582. The examiner can normally be reached on 8:30-5:00.

Art Unit: 2163

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don K. Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marie Antoinette Cabucos
Examiner
Art Unit 2163



DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100